SOFTWARE FOR SINCLAIR PERSONAL COMPUTERS

TIMEX-SINCLAIR 1000, ZX81, (AND ZX80 WITH 8K ROM). ALL MEMORY SIZES:

THE ZX81 HOME COMPUTER PACKAGE. A cassette with four programs: Etch-A-Screen, Music Composer, Checkbook Balancer, and Billboard (a scrolling large-character display). Packed in a zip-lock bag with manual, two reference cards, screen display sheet, music score sheet, and two keyboard overlays in color.....$9.95.

CLASSIC GAMES FOR THE ZX81 AND TS-1000. Four classic computer games on cassette: Lunar Lander, Life, Mindmaster, and Dogfight. Cassette and instructions packed in hard plastic cassette case.....$9.95.

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ZX80 WITH STANDARD 4K ROM. ALL MEMORY SIZES:

THE ZX80 HOME COMPUTER PACKAGE. A cassette with five programs: Etch-A-Screen, Music Composer, Calculator, Checkbook Balancer, and Electronic Billboard. Comes packed in zip-lock bag with manual, two reference cards, a screen display and a music score sheet, and two keyboard overlays in color.....$9.95.

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SUPER Z. SUPER Z is a machine-code program on cassette which adds seven new statements to ZX80 4K BASIC: TAB, SCROLL, MEM, PAUSE, READ, RESTORE, and DATA. Comes in a zip-lock bag with demo program, manual, and two reference cards..$9.95.

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Order From: LAMO-LEM LABS, BOX 2382, LA JOLLA, CA 92038-2382

ZX80 • ZX81 • MicroAce

PROGRAM: **PROGRAMMER:** **DATE:**

DESCRIPTION

NAMED VARIABLES		VARIABLES		ARRAYS		STRINGS	
		A		A( )		A$( )	
		B		B( )		B$( )	
		C		C( )		C$( )	
		D		D( )		D$( )	
		E		E( )		E$( )	
		F		F( )		F$( )	
		G		G( )		G$( )	
		H		H( )		H$( )	
		I		I( )		I$( )	
		J		J( )		J$( )	
		K		K( )		K$( )	
		L		L( )		L$( )	
		M		M( )		M$( )	
		N		N( )		N$( )	
		O		O( )		O$( )	
		P		P( )		P$( )	
		Q		Q( )		Q$( )	
		R		R( )		R$( )	
		S		S( )		S$( )	
		T		T( )		T$( )	
		U		U( )		U$( )	
		V		V( )		V$( )	
		W		W( )		W$( )	
		X		X( )		X$( )	
		Y		Y( )		Y$( )	
		Z		Z( )		Z$( )	

LINE #		CODE
10		
20		
30		
40		
50		
60		
70		
80		
90		
100		
110		
120		
130		
140		
150		
160		
170		
180		
190		
200		

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LINE #		CODE
210		
220		
230		
240		
250		
260		
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
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470		
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530		
540		
550		
560		
570		
580		

ZX80 • ZX81 • MicroAce

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
0																																	42•43
1																																	40•41
2																																	38•39
3																																	36•37
4																																	34•35
5																																	32•33
6																																	30•31
7																																	28•29
8																																	26•27
9																																	24•25
10																																	22•23
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14																																	14•15
15																																	12•13
16																																	10•11
17																																	8•9
18																																	6•7
19																																	4•5
20																																	2•3
21																																	0•1
22																																	
23																																	
	0•1	2•3	4•5	6•7	8•9	10•11	12•13	14•15	16•17	18•19	20•21	22•23	24•25	26•27	28•29	30•31	32•33	34•35	36•37	38•39	40•41	42•43	44•45	46•47	48•49	50•51	52•53	54•55	56•57	58•59	60•61	62•63	

SCREEN DISPLAY

LAMO-LEM LABORATORIES, BOX 2382, LA JOLLA, CA 92038

COMPOSER

NOTE
LENGTH

NOTE
LENGTH

NOTE
LENGTH

NOTE
LENGTH

NOTE
LENGTH

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ZX81

CASSETTE LOADING INSTRUCTIONS

(HELP IF YOU HAVE TROUBLE)

8K BASIC - Sinclair's programming language, BASIC, is stored on a silicon chip called a ROM (Read Only Memory), which contains 8K (approximately 8000) memory locations. The instructions stored at these memory locations are fixed, and cannot be altered. The 8K ROM chip constitutes the *operating system* of the ZX81

1K Memory - The ZX81 contains a RAM (Random Access Memory) chip with 1K (about 1000) bytes (locations) of usable memory space. The computer uses some of this for its internal functions, the rest is available to store users' programs and data. A 16K RAM pack, which expands memory to 16K is available from Sinclair.

THE ZX81 WILL NOT LOAD CASSETTES WRITTEN FOR THE STANDARD 4K ROM ZX80.

THE ZX81 WILL LOAD PROGRAMS WRITTEN FOR THE ZX80 WITH OPTIONAL 8K ROM.

- - - - - GENERAL LOADING HINTS - - - - -

1) Use cassettes containing high quality tape.
2) If your tape machine has had a lot of use, clean and demagnetize the heads, (easily done with a head-cleaning tape or solution, and a demagnetizing tool).
3) To LOAD: connect the EAR cable, disconnect the MIC cable.
4) Try loading while the tape player is operating under battery power. Try loading with the power cord connected.
5) Turn BASS to minimum, TREBLE to maximum, VOLUME to maximum.
6) If you have a tape selector, use the NORMAL setting. Turn off Dolby.
7) To avoid interference, do not work on a metal-topped table or desk.

- - - - - LOADING LAMO-LEM CASSETTES - - - - -

1) Insert the cassette. Verify that you are not on the blank side, (the label should face you).
2) Rewind the cassette to the beginning. Start the cassette machine in the PLAY mode.
3) Press LOAD and verify that the word LOAD has appeared in the lower left corner of the screen. Type in two quote marks, (that is, with SHIFT down, press P twice), release SHIFT and press ENTER, (or NEWLINE, if it appears on the keyboard in place of ENTER).
4) You should see a pattern of lines on the screen. The screen pattern will change when the program is reached. Within a minute, the lines will disappear, and the first program (a table of contents), will appear.

Don't be discouraged if you don't get a good LOAD right away. Sometimes the volume level must be just right. Rewind the tape. Press BREAK and repeat the procedures above, this time reducing the volume slightly. Try ten times or so, reducing the volume each time.

If you don't see the screen pattern change when the program is reached, either the volume is too low, or the EAR cable is improperly connected.

To get an idea of the length and location of the first program (the table of contents), play the recorder with the EAR cable unplugged. You might try loading a program of your own, listening to it, then at the same volume setting, listen to the table of contents. This might give an idea of the appropriate volume setting.

Another useful technique: place a radio near your computer, and tune it until you hear the computer signal. This allows you to listen to a program being LOADed.

If you have still had no luck, take the cassette out, and put it in again. Make sure that it is firmly seated in the tape machine.

If necessary, borrow a better quality tape recorder, at least long enough to SAVE the programs onto your own tape.

LAMO-LEM LABORATORIES, BOX 2382, LA JOLLA, CA 92038-2382

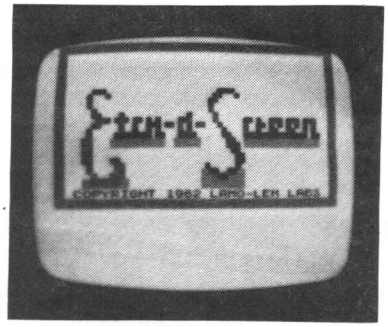
FOR THE ZX81, TIMEX-SINCLAIR 1000, AND 8K ROM ZX80 OR MICROACE

1K MEMORY OR MORE

THE ZX81 HOME COMPUTER PACKAGE

ETCH-A-SCREEN

Easily paint pictures anywhere within the top 17 rows. A moving cursor travels up, down, right, left, even diagonally, leaving behind text, graphics, and inverse characters. Keys REPEAT while held down. Your drawing can be stored on tape... and immediately appears when reloaded. Perfect for designing screen logos, or just doodling on the screen

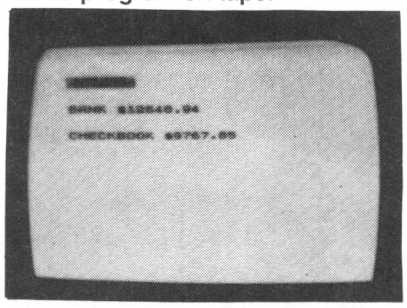


BILLBOARD

Use BILLBOARD for messages, displays, and exhibits. Type in a message of up to 250 letters, and press ENTER. A row of giant letters moves smoothly across the screen, repeating your message until you press NEW and enter a new message. Or, press SAVE and store the message on tape. When reloaded, the message begins automatically.

CHECKBOOK BALANCER

Keep a running tabulation of your bank account. CHECKBOOK BALANCER displays your current checkbook balance, (up to $59,999.99), your latest account balance, and a list of up to 22 transactions which haven't cleared the bank. A plastic-coated keyboard overlay defines ENTER, VOID, CLEAR, and DISPLAY keys. And a SAVE key stores the updated program on tape.



COMPOSER

A keyboard overlay transforms your computer into a four-octave musical instrument which broadcasts music as the keyboard is played. Listen to the music through a radio placed beside the computer, or through an amplifier and speakers. Or record the music directly onto tape. The last 175 notes played are stored in memory, and can be played back or edited. EDIT keys let you change notes and single-step forward or backward through the piece. SPECIAL EFFECTS keys are used to create unusual sound effects like laser blasts and arcade noises.

The complete ZX81 HOME COMPUTER PACKAGE, including cassette of four programs, manual, guide cards, screen display sheet, musical score sheet, and TWO FULL-COLOR KEYBOARD OVERLAYS, is just $9.95. Shipping and handling included! **$9.95**

From: LAMO-LEM LABORATORIES, BOX 2382, LA JOLLA, CA 92038

HERE'S HOW TO ORDER:

Check your address label and make any corrections beside it. Mark the packages desired on the order form below. Cut along dotted line to separate order blank. Enclose check or money order, (no cash) with order blank in envelope provided. Affix 20¢ stamp and mail.

LAMO-LEM LABORATORIES
Box 2382 La Jolla CA 92038

Sinclair Owner,

We've released a new cassette package. It's called The ZX81 Home Computer Package, and it works with all memory sizes of ZX81, Timex-Sinclair 1000, (and MicroAce or ZX80 with 8K ROM) personal computers.

Are you finding uses for your computer? The ZX81 Home Computer Package contains a cassette with four high-performance machine code programs for use around the home. Better than just games, these programs let you do something with your computer. They are entertaining, useful, and should provide many hours of enjoyment. For instance, would you like to play music on your computer?

COMPOSER generates notes with a range of four octaves over nearby radios as you play the keys of your computer. It also stores the notes in memory for immediate editing and playback. It requires no modification to your computer. ETCH-A-SCREEN turns the TV into an easel over which a moving "brush" can paint text, graphics, and inverse characters. CHECKBOOK BALANCER keeps a running tabulation of your bank balance. You can enter checks & deposits, void & clear transactions, and display both bank balance and current checkbook balance. BILLBOARD scrolls your message continuously across the screen with smoothly animated giant letters.

You get all of these programs on a ready-to-use cassette, with manual, reference cards, two keyboard overlays in color, a music score sheet, and a screen display sheet. All for just $9.95, including postage. Stock is now on hand for immediate shipment.

To order, just mark your choices on the order blank below, and enclose a check or money-order. Of course, our software carries an unconditional ten-day refund-or-replace guarantee. If you are unsatisfied in any way, return within ten days for a refund or replacement.

Sincerely,

Conan La Motte

cut here

cut here

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SOFTWARE REVIEW

Product: ZX81 Home Computer Package: Etch-A-Screen, Music Composer, Checkbook Balancer, Billboard
ROM/RAM required?: 8K/16K
Printed Listings?: No
Programs Listable?: No
Easy to Load?: Yes
Written in: Machine Code
Display: Good
From: Lamo-Lem Laboratories, Box 2382, La Jolla CA 92038
Price: $9.95

requires only 1K memory, actually!

Lamo-Lem's Home Computer Package of 4 machine code programs offer a good variety for a reasonable $9.95.

Billboard gives you a continuous left to right scrolling screen-size message. The message can be up to 250 characters and repeats until you enter a new one. You can even save your message on tape. The graphic display is clear and steady and it's the kind of item that could be a visual enhancement at a convention or store window or for simple fun.

Etch-A-Screen lets you draw a picture anywhere in the top 17 screen rows. The pen moves in all directions including diagonally and holding down one of the designated graphic keys gives you continuous line movement. The directions to this program were hazy in sections. For example, it is unclear in the manual that to get the asterisk (the drawing pen) to appear, you must hold down one of the arrow keys while shifting. Also, the directions neglect to explain that you must press shift A to clear the title screen and then shift 9 (graphics mode) to actually draw. These problems are minor when stacked against the program's merits. Lamo-Lem includes a screen display sheet if you want to plot out your masterpiece before you start.

Music Composer lets you play 4 octaves on your computer. The sound reproduces poorly through the TV, but is better through a radio. The directions are clear and straightforward and Lamo-Lem provides you with a color keyboard overlay that translates ZX81 keys into octave keys, special effects keys and edit keys. A music composition sheet is included for serious composers.

Checkbook Balancer tabulates your checking account and coordinates it with your monthly bank statement. It also comes with a keyboard overlay that assigns (+), (-), CLEAR, VOID, ENTER and SAVE functions to keys on your ZX/TS.

Each program comes with notes for advanced programmers, making possible such extras as reprogramming Composer to play Sinclair's BASIC as if it were music. Reference cards, which summarize program commands, are included for 3 programs. The ZX81 Home Computer Package is a worthy set of programs for a good price.--PPW

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Telephone 617/456-3661.
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Also mentioned in:

INFOWORLD, 9/27/82 p. 63.

ZX81 CLASSICS

A CASSETTE OF FOUR READY-TO-USE COMPUTER GAMES FROM LAMO-LEM

LUNAR LANDER

An instrument panel monitors altitude, velocity, fuel, and thrust. Control your burn rate in order to land safely on the Moon. Position of the descending module is updated every five seconds.

K-TREK

A color overlay transforms the keyboard into a Klingon command console in this Star Trek version with Federation Starships, bases, phasers, warp drive, impulse engines, system scans, a quadrant display, and an enemy who changes position...and fires back!

MASTERMIND

A graphic version of Mastermind with nine difficulty levels. Break the hidden code using hints and deductions. Gameboard appears on the screen.

LIFE

Bring patterns of cells to life, and watch as they grow and die, producing an ever-changing screen display. Features include: a pause key which stops action in order to study an interesting pattern, a gener ation counter, and a large 16x21 display. Includes an article reprint expaining the logic and strategies of LIFE.

ZX81 CLASSICS. A cassette of games for the ZX81, (and ZX80 or MicroAce with 8K ROM). All programs fit within the standard 1K memory! Just load and play. Satisfaction guaranteed, or return within ten days for refund or replacement. ZX81 CLASSICS is packed in a zip-lock bag with a manual, color keyboard overlays, game cards, article reprint, and a cassette of four games $9.95

ZX81 1K DISASSEMBLER

Reveal the secrets of Sinclair's 8K ROM, and expose useful assembly-language subroutines with this disassembler for 1K memories, (or larger). From any starting address, the ZX81 1K Disassembler will translate each Z-80 machine-code instruction into a unique key. Look up the key in the disassembler manual to find the assembly-language mnemonic. All numbers, addresses, and displacements are automatically calculated. Lets you store and translate machine-code programs of up to 150 bytes.
MEMORY TEST is also included on the cassette. It tests RAM memory, (automatically adjusting to any memory size), and displays addresses of failing bytes on the screen. Both programs run on all ZX81s, (also ZX80s and MicroAces with 8K ROM).

The ZX81 1K DISASSEMBLER is packed in a zip-lock bag with a manual, reference cards, and a cassette containing the disassember and memory test programs $9.95

Order From: LAMO-LEM LABORATORIES, BOX 2382, LA JOLLA, CA 92038

ZX81 CLASSICS, ($9.95)	.....
ZX81 DISASSEMBLER, ($9.95)	.....
CODING & DISPLAY SHEETS	..... FREE.....
TOTAL	

For our list of ZX81 products, and free coding and display sheets, send a stamped, self-addressed envelope.

SHIP TO:

Name _____

Address _____

City _____

State/ZIP _____

Enclose check or money order.
No postage, handling, or sales tax.
Ten day refund-or-replace guarantee.
Programs run on all ZX81s.

ZX80 • ZX81 • MicroAce

NEW! Software for the 8K ROM.

ZX81 CLASSICS

Four classic computer games for the ZX81 (or ZX80 or MicroAce with 8K BASIC). Lunar Lander - control the thrust of your descent while monitoring altitude, velocity, thrust and fuel. Position of descending module on the screen is updated every five seconds. K-Trek - a Star Trek version with Federation Starships, bases, phasors, warp drive, impulse engines, scanners, and a quadrant display. Lock phasors onto enemy coordinates, but think fast. Enemy ships change position every ten seconds...and fire back! Mastermind - a graphic version of Mastermind with nine difficulty levels. Crack the hidden code using hints and deduction. Gameboard displayed on screen. Life - the computer classic by John Conway. Form colonies of cells and watch them grow and die, producing ever-changing screen patterns. A new generation appears every three seconds. A pause key lets you stop action to study an interesting pattern. Has a generation counter. Large display covers most of screen. Includes article reprint from BYTE magazine explaining the logic and strategies of LIFE.

ZX81 CLASSICS is packed in a zip-lock bag with game manual, charts, article reprint, and cassette of four games. Requires 8K BASIC and at least 1K of memory.....$ 9.95

THE ZX81 1K DISASSEMBLER

Reveal the secrets of Sinclair's 8K BASIC, and expose useful assembly-language subroutines with this disassembler for 1K memories (or larger). THE ZX81 1K DISASSEMBLER will translate the machine-code of the 8K ROM into assembly language instructions. To use, enter a beginning address and NEWLINE. A key value is caluclated and displayed. Look up the key in the disassembler manual to find the full mnemonic assembly-language instruction. The disassembler also calculates numbers, addresses, and displacements, and displays them beneath the key. To read succeeding instructions, just press NEWLINE. MEMORY TEST is also included in this package. The program will test your RAM memory (automatically adjusting for all memory sizes), and display addresses of failing bytes on the screen.

The ZX81 1K DISASSEMBLER is packaged in a zip-lock bag with manual, reference cards, and a cassette containing the disassembler and memory test.....$ 9.95

PACKAGE	QUANTITY	EACH
ZX81 CLASSICS		$ 9.95
ZX81 DISASSEMBLER		$ 9.95
TOTAL		$

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ARE BEING MAILED SEPARATELY

INCLUDE CHECK OR M.O. NO POSTAGE, HANDLING, OR SALES TAX.